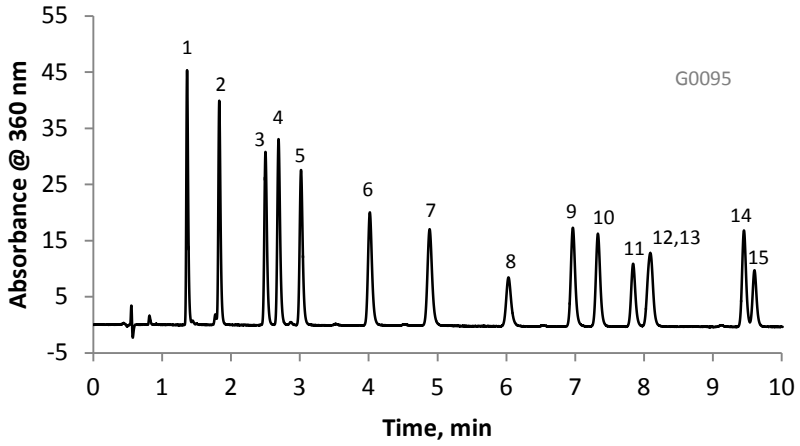
HALO 2 COLUMNS

Fused-Core® Particle Technology

Application Note: 112-P

Separation of Dinitrophenylhydrazones on HALO 2 C18



PEAK IDENTITIES:

1. Formaldehyde-2,4-DNPH
2. Acetaldehyde-2,4-DNPH
3. Acetone-2,4-DNPH
4. Acrolein-2,4-DNPH
5. Propionaldehyde-2,4-DNPH
6. Crotonaldehyde-2,4-DNPH
7. 2-Butanone-2,4-DNPH
8. Methacrolein-2,4-DNPH
9. Butyraldehyde-2,4-DNPH
10. Benzaldehyde-2,4-DNPH
11. Valeraldehyde-2,4-DNPH
12. m-Tolualdehyde-2,4-DNPH
13. p-Tolualdehyde-2,4-DNPH
14. Hexaldehyde-2,4-DNPH
15. 2,5-Dimethylbenzaldehyde-2,4-DNPH

2, 4-DNPH = 2,4-Dinitrophenylhydrazone

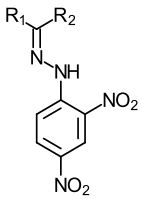
TEST CONDITIONS:

Column: 2.1 x 100 mm, HALO 2 µm C18
Part Number: 91812-602
Mobile Phase: A/B: 55/45 (to start)
A= Water
B= (Acetonitrile/THF): (80/20 v/v)

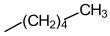
Time	%B
0.0-3.5	45
3.5 -10	45 - 60

Flow Rate: 0.5 mL/min.
Pressure: 545 Bar
Temperature: 30°C
Detection: UV 360 nm, VWD
Injection Volume: 0.5 µL
Sample Solvent: 50/50 Acetonitrile/Water
Data Rate: 40 Hz
Response Time: 0.1 sec.
Flow Cell: 2.5 µL semi-micro
LC System: Agilent 1200 SL

STRUCTURES:



General -2,4-DNPH structure

Peak	R1	R2
1	-H	-H
2	-H	—CH_3
3	—CH_3	—CH_3
4	-H	
5	-H	
6	-H	
7	—CH_3	
8	-H	
9	-H	
10	-H	
11	-H	
12,13	-H	
14	-H	
15	-H	

Using modified EPA methods 8315 and 554, baseline resolution of the sample components is achieved by the use of a HALO 2 column and a mobile phase containing both acetonitrile and tetrahydrofuran (THF). The addition of THF is necessary to achieve this resolution, which also changes peak elution order.

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